

ABSTRACT

A silicon-on-insulator (SOI) photodiode optical monitoring method and system for color temperature control in solid state light systems. The method includes the steps of providing a plurality of SOI photodiodes, wherein each SOI photodiode includes a silicon substrate, a buried oxide layer formed on the silicon substrate, and a silicon layer formed on the buried oxide layer, and wherein the silicon layer of each SOI photodiode has a different thickness, determining a proportion of incident light passing through each SOI photodiode to the silicon substrate with respect to wavelength and the thickness of the silicon layer, and calculating color component intensities of the incident light based on the determined proportions.